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North Carolina A&T State University School of Agriculture and Environmental Sciences Newsletter
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on the *move*/flip side

The SAES's 2011 Research Apprenticeship Program for 20 topnotch high school students came to a grand finale on Friday, July 22. The research apprentices each worked closely with SAES research scientists on a project for four weeks. The range of subjects for research projects was broad: from agroforestry to genetic markers for livestock apt to produce twins, to dietary fiber, biodiesel and antimicrobial properties of onions.

Please "like" us on the SAES RAP Facebook page.

MARK YOUR CALENDAR:

- **First day of fall semester classes: Aug.17**
- **Homecoming 2011 (vs. Morgan State): Oct. 8**
- **Fall break: Oct. 17 & 18**

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Preparing. Finding. Implementing solutions.

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Dr. Mac's (Expanded) Minute

IT'S A REWARDING but exhausting experience to build something from the ground up. You usually have to build on an existing foundation, and on top of many negatives. You seldom have the opportunity to select exactly what you want and to build it to your present specifications and requirements.

That's exactly what we have been doing in the SAES. As I explained to you in this space in June, the SAES is changing. All UNC system schools are examining themselves and eliminating or consolidating low-producing programs. Although we proposed consolidating, the SAES ended up losing six of the 10 programs that the University eliminated. These are the cards we have been dealt. We could have just shifted the remaining cards on the table and made it work, but I decided after much research and discussion that this mandated UNC directive also provided an opportunity to build a new SAES. Not rebuild, but build.

And build is what has been happening. I've worked with my administrative team – associate deans and department chairs. I've talked to students – new and returning. I've met with small groups of faculty and staff. I've looked at what's happening across the country and I've talked with famers, agriculture-related commodity groups and others across this state about what they expect from A&T.

I looked at the major issues facing this country. I looked at the new Strategic Plan from the U.S. Department of Agriculture, one of our major funders. I looked at existing and potential funding streams and I looked at the potential careers that are needed in the marketplace for the next 15-20 years. I used all this information to craft a blueprint for my administrative team to build the best. Build a school of agriculture for today. Build a school that will prepare students for years to come.

We have come up with something we can work with. While this construction is still in the preliminary stages, I'm introducing you to our strategic thinking at this point so I can have the opportunity to hear what all SAES stakeholders are thinking.

First, when I looked at the USDA Strategic Plan I noticed that it is primed to address four major challenges:

- Assist rural communities to create prosperity so they are self-sustaining, re-populating and economically thriving.
- Ensure our national forests and private working land are conserved, restored and made more resilient to climate change, while enhancing our water resources.
- Help America promote agricultural production and biotechnology exports as America works to increase food security.
- Ensure that all of America's children have access to safe, nutritious and balanced meals.

As a result, I see an SAES that is built around three basic knowledge areas:

- ***Health, Wellness and Families.*** This area would include studies on obesity and other life threatening diseases, financial literacy, human development and performance and nutrition.
- ***Food, Plants and Animals.*** This area would include studies on food safety, quality, preservation and bioprocessing; product marketing and distribution and food/plant and animal policy and regulation.
- ***Sustainability and the Environment.*** This area would include studies in bioremediation, biofuels, sustainable agriculture, biological engineering, water and resource management, climate change and water quality and quantity.

These are not departments or majors. These are knowledge areas. The task now is to get response and reaction to these knowledge areas. Once we get some feedback, we will begin the process of building departments and majors around this work.

This is where I need your help. I need you to let me know your thoughts and reactions to the three overall knowledge areas. What's missing? What do you like? What do you dislike?

Once your feedback is compiled and assessed, we will move forward. And we will move with a sense of urgency. I get excited just looking at what we can build; what we can be. I want you to share in my excitement as we make sure that the SAES remains on the move.

The SAES launched its strategic plan, entitled "Planning Our Preferred Future," at the beginning of the 2005–06 academic year. That plan, laid out in a 17-page booklet, set the SAES on a course of action that has seen our enrollment and retention rates increase, spurred increases in our external funding and focused our work in academics, research and Extension. "Planning Our Preferred Future" is organized around 11 primary themes the SAES must continually address if it is going to move forward. Here is a theme-by-theme look at some highlights from the 2010—11 academic year.

From left to right: Dr. Manuel Reyes; a group of children "Discover Agriculture" at the University Farm; Dr. Claudette Smith leads students through the 4-H_2O experiment; Dr. Jianmei Yu; and Kori Higgs, part of the team of SAES students that won $75,000 in an EPA contest.

THEME 1: MAINTAIN A RESPONSIVE LEARNING ENVIRONMENT

- A certificate course in agroforestry and a course in entomology were developed to specifically target nontraditional students. Work also got under way on a new environmental health science certificate, which will appeal to the growing number of students interested in environmental stewardship.
- A new concentration was approved, "Consumer Sciences," to incorporate the six online courses required to upgrade the Family Financial Management Certificate to a degree program. The program will prepare students to sit for the Certified Financial Planner exam.
- The SAES now offers 89 online courses, two degree programs that can be completed online and another online program under development.
- In the 2010-11 academic year the number of SAES interdisciplinary certificate programs grew to six, and groundwork was completed for a launch of three additional certificate programs (agroforestry, entomology and environmental health science) in the fall of 2011.

THEME 2: ATTRACT AND GRADUATE OUTSTANDING STUDENTS

- According to latest data from *Diverse Issues in Higher Education*, the SAES ranks second in the nation in graduating African Americans with degrees in agriculture. In fall 2010, SAES enrollment added up to 976 students (820 undergraduate and 156 graduates). The SAES capped off the 2009-10 academic year with a record number of graduates: 160.
- The SAES accepted the second group of undergraduate students in its Undergraduate Student Research Program. Students accepted for this rigorous program are paired with an SAES research scientist to work through a project, present their findings and, if possible, get them published.
- One of the SAES's USDA 1890 Scholars was named a Federal Service Student Ambassador for A&T. The program serves to generate interest in federal service among college students by enlisting student ambassadors who are qualified to make presentations to their peers describing how to uncover and apply for educational and career opportunities with government agencies.
- An SAES graduate student majoring in food and nutritional sciences, Priscilla Randolph, was one of three inaugural winners of the A&T Best Master's Thesis Award, presented by the School of Graduate Studies and the Division of Research and Economic Development.

THEME 3: IMPROVE MINORITY AND ENVIRONMENTAL HEALTH

- Cooperative Extension personnel worked with Hmong immigrants from Southeast Asia who have resettled in the North Carolina foothills with a program that assisted them in getting back to the agricultural lives they knew in Laos. The program helped the Hmong adapt high tunnel greenhouses and other novel production methods, and take advantage of urban farmers markets and other marketing niches.
- The SAES's Child Development and Family Studies Program was approved by the National Council on Family Relations to prepare students for the first steps in securing the Certified Family Life Educator (CFLE) credential. This makes A&T one of only 127 colleges and universities in the United States and Canada approved by the National Council on Family Relations as meeting the criteria for the CFLE credential. A&T is one of only three universities in the state approved to prepare students for the CFLE credential, and the first HBCU to secure the distinction. As a result of this designation, graduates of the program may apply for the CFLE certificate and will not be required to take the CFLE exam.

THEME 4: ENSURE A NUTRITIOUS, SAFE AND SECURE FOOD SUPPLY

- SAES food scientists moved closer to developing hypoallergenic peanuts, as promising research led by Drs. Mohamed Ahmedna and Jianmei Yu attracted $500,000 from USDA for clinical trials in collaboration with the University of North Carolina at Chapel Hill. If the trial results are favorable, the project will then move on to consumer testing at A&T's food sensory testing lab. From there, it is anticipated that agribusiness partners will license and commercialize the patent-pending technology to the benefit of consumers and industry alike.

THEME 5: EMPOWER INDIVIDUALS, FAMILIES AND COMMUNITIES

- Drs. Rosemarie Vardell and Valerie Jarvis McMillan of the Dept. of Family & Consumer Sciences faculty have received a new $135,000 grant from the N. C. Division of Child Development for a community-based participatory research project that will include a framework for culturally responsive curricula, and recommendations for improvements in classroom practices, state policies and professional development. The faculty investigators are working in partnership with the Evidence-Based Practice Implementation Center at Duke University.
- More than 4,000 children and adult chaperons participated in Discover Agriculture, a program for children in their first four years of elementary school that gives them lessons in agricultural sciences and environmental studies during visits to a series of learning stations at the University Farm and at the Center for Environmental Farming Systems in Goldsboro.
- The Family and Consumer Science's Child Development Laboratory received a five-star rating from the N.C. Division of Child Development, the highest possible, following an environmental assessment of developmentally appropriate learning for young children and their families that was conducted in late July. The score reflects staff credentials as well as the learning environment for pre-schoolers enrolled at the Child Development Laboratory. The FCS's Birth-Kindergarten program received approval from the N.C. Department of Public Instruction.

THEME 6: ADVANCE BIOTECHNOLOGY AND BIODIVERSITY

- Dr. Mulumebet "Millie" Worku, a researcher and faculty member in the department of Animal Sciences, received the Senior Researcher of the Year Award from the University. Worku's research program is focused on exploring the molecular and genetic basis for natural resistance or immunity to mammalian diseases — especially mastitis — with the goal of improving the diagnosis, treatment and selection of animals. During her tenure, Worku has led or collaborated on 29 research projects worth $7.5 million, and she continues to lead or collaborate on three or more research projects each year. Her recent publications include articles in the *Journal of Dairy Science* and the *American Journal of Animal and Veterinary Sciences*, which report on gene expression in bovine blood neutrophils, and an evaluation of plant extracts for use in treating meat goats.

THEME 8: PROTECT THE ENVIRONMENT AND NATURAL RESOURCES

- Dr. Manuel Reyes, a biological engineer on the SAES faculty, is soon to be the author of one book and a coauthor of three others in a set of four by SANREM CRSP (Sustainable Agriculture and Natural Resources Management Collaborate Research Support Program). Reyes was also the principal investigator for the A&T SANREM Phase III research program "Agroforestry and Sustainable Vegetable Production in Southeast Asia" that set the groundwork for the set of books. He led a team of researchers, with more than 30 international partners and funding from the USAID, in an effort to identify and demonstrate ways that vegetable farming can coexist with forestry.
- A plan for making the landscaping around Sockwell Hall cohesive with the environment that SAES students submitted to a national EPA competition was one of 14 national winners and received $75,000 from the EPA to extend the project.

THEME 9: PROMOTE INTERNATIONAL TRADE AND ECONOMIC DEVELOPMENT

- A&T is part of a consortium of 13 universities and non-profits that landed a $9 million grant from USAID for contributions to a project designed to increase food production throughout the world, but especially in developing countries.
- Dr. Paula Faulkner of the Department of Agribusiness, Applied Economics and Agriscience Education has been elected to the board of directors of the North Carolina Chapter of the Fulbright Association for a two-year term that will begin in January 2012. The Fulbright Association is an outgrowth of the Fulbright Program, which was established in 1946 and has since grown into the State Department's preeminent initiative for international educational exchanges.

THEME 10: USE INNOVATIVE TECHNOLOGIES

- An entry coordinated by The Cooperative Extension Program at A&T came out on top in a national competition among colleges and universities to develop and lead the 2010 4-H National Youth Science Day experiment. Dr. Claudette Smith of The Cooperative Extension Program at A&T and Dr. Stephanie Luster-Teasley of the College of Engineering and Dr. Gregory Goins of A&T's Department of Biology developed the 4-H_2O experiment, which beat out other submissions in a national competition and landed $20,000 in prize money for the University. The 4-H_2O experiment was conducted by hundreds of thousands of young scientists around the world; at 450 gatherings in the United States alone. One of the largest gatherings was at the Alumni-Foundation Event Center at A&T, where more than 260 fifth graders from three Guilford County elementary schools replicated the experiment that demonstrated the perils of carbon dioxide emissions and global warming.

THEME 11: EXPAND RESOURCE BASE AND MAXIMIZE RELATIONSHIPS

- The SAES generated over $16.1 million in funded research for the University during the 2009-10 academic year. SAES faculty submitted 90 proposals and 39 were funded. A portion of these funds supported assistantships for 36 undergraduate and 55 graduate students for a total of $1,153,873.